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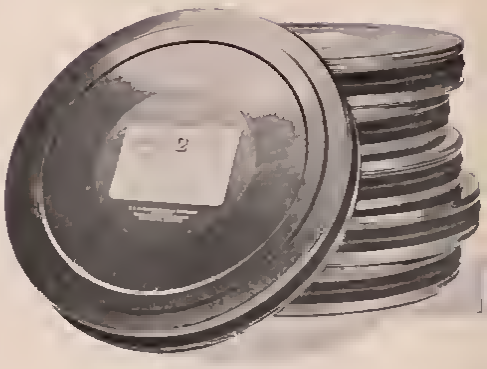

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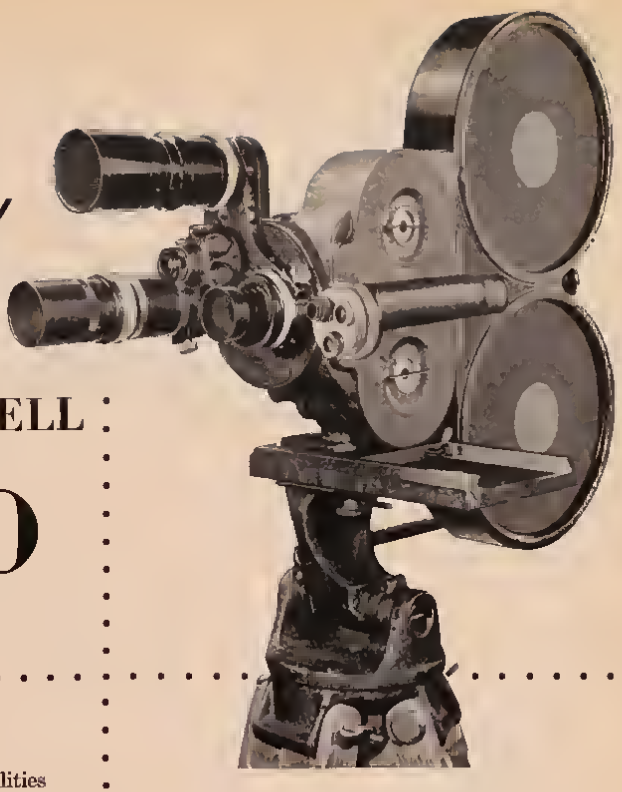

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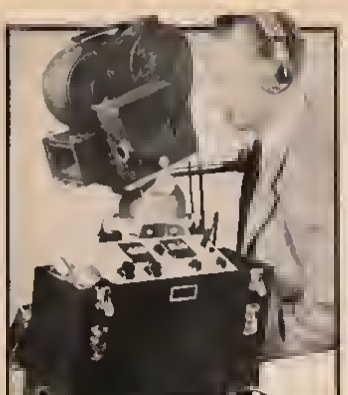

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STOUT

SURTEES

ARCHIE STOUT AND BOB SURTEES, both A S C members, have been honored with awards for photography at the Intetnational Film Festival held at Locarno, Switzerland, in July Stout won 2nd place for black and white photography on "Fort Apache, and Surtees won 2nd place in the color photography division for his camera work on the film, "Unfinished Dance' First place in the black and white division went to an unnamed French picture while a British film received the photography award in the color division

•

JUST A MEMORY—but a pleasant and enduring one—is the lavish and gala Second Annual Ladies Night and Dinner Dance given by the A S C for its members and their wives or lady friends on Saturday evening, September 11th at the Society s clubhouse in Hollywood More than 200 attended to feast, dance and be entertained with an excellent program of vaudeville acts and music Credit for success of affair is due A S C's president Charles G Clarke, executive v-pres Fred W Jackman and board member John W Boyle who labored as a committee to co-ordinate food, drink and entertainment for a pleasurable evening

•

A CERTIFICATE OF RECOGNITION, the first the American Society of Cinematographers has awarded in its thirty years of existence, was tendered George Mitchell, Honorary Member of the A S C and retiring head of Mitchell Camera Company Occasion was the A S C Annual Ladies Night and Dinner Dance last month Certificate commemorated Mr Mitchell's contribution as a pioneer in the field of motion picture photography and his ceaseless work in advancing the art of cinematography Mitchell pioneered and developed the world renowned Mitchell studio camera, which is standard equipment wherever motion pictures are made today, also designed the Mitchell Professional 16mm camera, now widely used in industrial and educational film production

•

BEST PHOTOGRAPHED motion picture released during the 1947-48 season was David O Selznick s Duel in the Sun," according to a poll conducted by *The Film Daily*, industry trade paper "Duel" was photographed under direction of A S C members Lee Garmes, Hal Rosson, Ray Rennahan, Charles P Boyle and nonmember Allen Davey Ten additional pictures and their directors of photography were also named in the poll as among the best of the season They are 'The Naked City,' by William Daniels, A S C; 'Black Narcissus, by Jack Cardiff, A S C; 'Green Dolphin Street,' by George Folsey, A S C, 'Great Expectations, by Guy Green, 'The Treasure of the Sierra Madre, by Ted McCord, A S C, Captain From Castile," by Charles G Clarke, A S C. and Arthur E Arling, A S C, "The Fugitive, by Gabriel Figueroa; "Easter Parade,' by Harry Stradling, A S C; 'The Green Grass of Wyoming, by Charles G Clarke, A S C, and 'The Lady From Shanghai, by Charles Lawton, Jr, A S C.

•

TOLAND PASSES—Just as we were going to press we received news of the lamentable passing of Gregg Toland, A S C, who died September 28th Toland, director of photography for Samuel Goldwyn Studios, was also a stockholder in the company

•

S M P E'S 64TH SEMI-ANNUAL convention will be held at Hotel Statler, Washington, D C, October 25th to 29th Dramatic achievements of the past year in theatre television and high speed photography will be among the many scientific and technical activities in or related

(Continued on Page 361)

OCTOBER 4th IS A S C. NIGHT

Instead of meeting at the clubhouse, all members of the A S C are invited by the Cinecolor Corporation to a buffet supper to be held at its plant, 2800 West Olive St, Burbank, at 6 30 o'clock Monday evening, October 4th Following the supper, there will be an interesting screening of late Cinecolor films followed by an instructive technical discussion of Cinecolor processes A question and answer forum will conclude the meeting

. . . the future of cinematography

SOME PEOPLE make the easy mistake of thinking that with a light meter, a measuring tape, a few charts, an operator and an assistant, anybody can be a good cameraman. I do not think that this view is shared by the men who supervise picture-making. The cameramen have managed to keep themselves on a high professional plane and it is only natural that some are considered better than others and can command more money. But this independence also provides a spirit of competition which makes for greater opportunities for every man who has ideas and is willing to follow them through because there is always room at the top for a man who has, by his own efforts managed to better the mark we call 'ordinary'.

It is only natural, therefore, to expect that the future will see greater developments in the field of motion picture photography and it is perfectly reasonable to expect that the cameramen themselves will be among those who contribute to these developments. What these changes will be nobody can foresee, yet they will come just as surely as color followed our first crude black and white moving images.

And that leads us to the fact that there is a great future for all cameramen who are not content to stay in the "ordinary" classification—men who are constantly alerted for some little thing that will open up new channels of development and improvement.

—William Goetz
25th Anniversary of A S C

★

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ON THE COVER

WILLIAM DANIELS, A.S.C., (left) pauses during the shooting of "Family Honeymoon" at Universal-International Studios in Hollywood, to discuss a camera angle with director Claude Binyon and star Claudette Colbert. Lillian Bronson and little Gigi Perreau take an interest in the discussion, too.

AMERICAN CINEMATOGRAPHER established 1920. Is published monthly by the A.S.C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 19, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $2.50 per year; Canada, $2.75 per year; Foreign, $3.50. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1948 by A.S.C. Agency, Inc. AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.

Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month

Allied Artists

• JACK MACKENZIE, 'When a Man's a Man' (Windsor Prod.), with Guy Madison, Rory Calhoun and Cathy Downs. John Rawlins, director.

Columbia

• BURNETT GUFFEY, 'Knock on Any Door' (Santana Prod.), with Humphrey Bogart and Susan Perry. Nicholas Ray, director.

• JOSEPH WALKER, 'Mr. Soft Touch,' with Glenn Ford and Evelyn Keyes. Gordon Douglas, director.

• VINCENT FARRAR, 'The Crime Doctor's Diary,' with Warner Baxter, Lois Maxwell and Adele Jergens. Seymour Friedman, director.

• RUSSEL METTY, 'Rough Sketch' (Horizon-Col.), with Jennifer Jones and John Garfield. John Huston, director.

• ALLAN SIEGLER, 'Air Hostess," with Gloria Henry, William Wright and Leatrice Joy. Lew Landers, director.

• VINCENT FARRAR, 'Blondie's Big Deal," with Penny Singleton, Arthur Lake and Larry Simms. Edward Bernds, director.

• IRA MORGAN, "Jungle Jim's Adventure, with Johnny Weismuller and Elena Verdugo. William Berke, director.

• HENRY FREULICH, 'Make Believe Ballroom," with Jerome Courtland, Jimmy Dorsey, Frankie Lane. Joseph Stanley, director.

• REX WIMPY, 'Desert Vigilante,' with Charles Starrett, Smiley Burnett and Peggy Stewart. Fred Sears, director.

Independent

• LEE GARMES, 'Caught' (Enterprise), with Barbara Bel Geddes, Robert Ryan and James Mason. Max Oplus, director.

• WILLIAM MELLOR, "Love Happy" (Lester Cowan-U.A.), with the Marx Brothers and Ilona Massey. David Miller, director.

• FRED JACKMAN, JR., 'Canadian Pacific' (Nat Holt-20th) (Cinecolor), with Randolph Scott and Jane Wyatt. Edwin L. Marin, director.

• LUCIAN ANDRIOT, "Outpost in Morocco" (Moroccan Pictures-U.A.), with George Raft and Marie Windsor. Robert Florey, director.

• BENJAMIN H. KLINE, 'Last of the Wild Horses' (Lippert Screen Guild), with James Ellison, Jane Frazee and Mary Beth Hughes. Robert L. Lippert, director.

• JOHN ALTON, 'Reign of Terror" (Walter Wanger-E.L.), with Robert Cummings and Arlene Dahl. Anthony Mann, director.

• HENRY SHARP, "Daughter of Ramona" (Martin Mooney-Film Classics) (Cinecolor), with Martha Vickers, Philip Reed and Donald Woods. Harold Daniels, director.

• PHILIP TANNURA, "An Old Fashioned Girl" (Vinton-Equity), with Gloria Jean and Frances Rafferty. Arthur Dreifuss, director.

• JACK GREENHALGH, "File 649, State Department" (Neufeld-Film Classics). Peter Stewart, director.

• JAMES S. BROWN, JR., 'Zamba' (Fortune Films), with Jon Hall, George Cooper and June Vincent. Nate Watt, director.

M-G-M

• ROBERT PLANCK, 'Little Women' (Technicolor), with June Allyson, Margaret O'Brien, Elizabeth Taylor, Janet Leigh and Peter Lawford. Mervyn LeRoy, director.

• HARRY STRADLING, 'Barkleys of Broadway' (Technicolor), with Fred Astaire and Ginger Rogers. Charles Walters, director.

• GEORGE J. FOLSEY, JR., 'Take Me Out to the Ball Game' (Technicolor), with Frank Sinatra, Gene Kelly and Esther Williams.

• ROBERT SURTEES, 'Big Jack Horner," with Wallace Beery, Marjorie Main and Edward Arnold. Richard Thorpe, director.

Monogram

• MACK STENGLER, 'Joe Palooka in the Big Fight," with Joe Kirkwood, Jr., and Lina Romay. Cy Endfield, director.

• HARRY C. NEUMANN, 'Gunning for Justice," with Johnny Mack Brown and Evelyn Finley. Ray Taylor, director.

• HARRY C. NEUMANN, "Headin' for Trouble," with Jimmy Wakely and Cannonball Taylor. Ford Beebe, director.

• L. W. O'CONNELL, 'Jiggs and Maggie in Society" with Joe Yule and Renie Riano. William Beaudine, director.

Paramount

• LEO TOVER, 'The Heiress," with Olivia DeHaviland and Sir Ralph Richardson. William Wyler, director.

• RAY RENNAHAN, 'Streets of Laredo" (Technicolor), with William Holden, William Bendix and Mona Freeman. Leslie Fenton, director.

• JOHN F. SEITZ, 'One Woman," with Alan Ladd, Donna Reed and June Havoc. Lewis Allen, director.

DANIEL FAPP, 'A Mask for Lucretia," with Paulette Goddard, John Lund and Macdonald Carey. Mitchel Leisen, director.

R-K-O

ROBERT DEGRASSE, 'Follow Me Quietly," with William Lundigan, Dorothy Patrick and Jeff Corey. Richard Fleischer, director.

• ROBERT DEGRASSE, "The Clay Pigeon," with Bill Williams. Richard Fleischer, director.

20th Century-Fox

• CHARLES G. CLARKE, 'Sand' (Technicolor), with Mark Stevens, Coleen Gray and Rory Calhoun. Lou King, director.

• ARTHUR ARLING, 'Mother Is a Freshman' (Technicolor) with Loretta Young and Van Johnson. Lloyd Bacon, director.

• JOE MACDONALD, "Down to the Sea in Ships," with Richard Widmark, Cecil Kellaway and Dean Stockwell. Henry Hathaway, director.

• LEON SHAMROY, "Prince of Foxes" (Shooting in Italy), with Tyrone Power, Orson Welles and Wanda Hendrix. Henry King, director.

United Artists

• WILLIAM MELLOR, 'Too Late for Tears" (Stromberg Prod.), with Lizabeth Scott, Dan Duryea and Don Defore. Byron Haskin, director.

• ERNEST LASZLO, 'Impact" (Popkin-U.A.), with Brian Donlevy, Ella Raines and Charles Coburn. Arthur Lubin, director.

Warner Brothers

• ROBERT BURKS, 'The Fountainhead, with Gary Cooper and Patricia Neal. King Vidor, director.

• CARL GUTHRIE, 'Somewhere in the City," with Viveca Lindfors and Edmond O'Brien. Vincent Sherman, director.

• ERNEST HALLER, 'Happy Times' (Technicolor), with Danny Kaye and Barbara Bates. Henry Koster, director.

• WILFRID CLINE, 'Two Guys and a Gal' (Technicolor), with Dennis Morgan, Jack Carson and Doris Day. David Butler, director.

• KARL FREUND, 'Montana" (Technicolor), with Errol Flynn and Alexis Smith. Ray Enright, director.

• ERNEST HALLER, 'Flamingo Road" (Michael Curtiz-WB), with Joan Crawford, Gladys George and Gertrude Michael. Michael Curtiz, director.

• JACK CARDIFF, "Under Capricorn' (Transatlantic-WB) (Technicolor) (Shooting in London), with Ingrid Bergman, Joseph Cotten and Michael Wilding. Alfred Hitchcock, director.

• SID HICKOX, 'Colorado Territory,' with Joel McCrea, Virginia Mayo.

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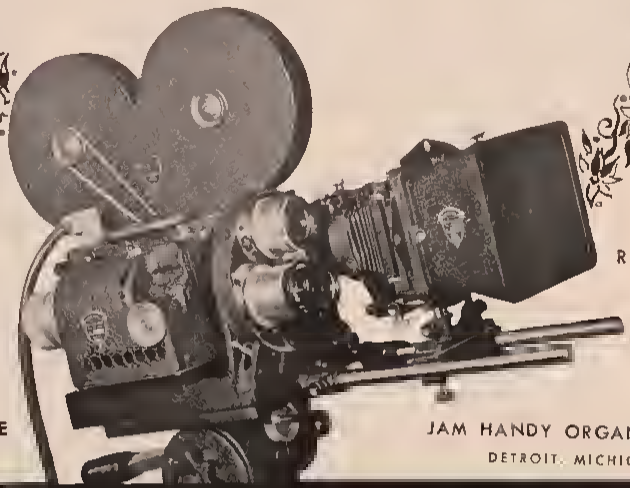

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INDICATING a two-point increase in density of the key light is author Tannura shooting a scene for "The Lone Wolf and His Lady" at Columbia Pictures studios. Howard Robertson, chief gaffer operates the dimmer bank. Successful use of banh demands a shillful and experrenced operator

Dimmer Banks And Modern Set Lighting

Multiple dimmer units afford flexible control of illumination by the cameraman and cut production costs.

By PHILIP TANNURA, A.S.C.

THERE IS hardly an instance today where a dimmer bank cannot speed up production and generally ease the director of photography s lighting problems It seems only a little while ago when it was the custom to have the players on a set confine their action to limited areas defined by chalk lines on the floor It was the accepted technique for a player to walk up to his chalk line, say his piece or emote never moving out of the pre-set lighting range Closeups were always made with the player facing the key light Those were happy and comparatively easy days for the director of photography

The advent of sound introduced the use of multiple cameras to cover the action from different locations on the set The takes were longer and the players now moved more freely about the set, creating new lighting problems for the cameraman It was almost impossible to keep density of the light constant, as the players moved about the set Sound pictures also brought new actors to the Hollywood movie lots, mostly players from the Broadway stage They were accustomed to and demanded more freedom of movement in portraying their roles, the same as they had followed on the stage The theatre, of course, had a lighting system that permitted centralized control of every lighting source Flood lights, spot light and overhead lights could be quickly dimmed or raised to fit the action or mood of the play

Ultimately, of course, the stage dimmers were adopted for motion picture lighting It was seen that they could also do for the movie set what they had accomplished for so many years for the theatre Instead of adapting the stage lighting technique in its entirety, the dimmers were fitted by the studios more to the needs of movie set photography Ultimately what resulted was the important piece of electrical equipment we have come to know as the dimmer bank or dimmer board as it is also known, which is actually a cabinet or panel combining a series or several series of rotary dimmer switches with cables leading to the various incandescent light sources

Many of the Hollywood studios built their own dimmer banks, but when their importance was recognized by the equipment manufacturers, certain makers of studio lighting equipment, such as Bardwell & McAlister, designed and put on the market multiple unit dimmer banks of advanced design Bardwell & McAlister now have a ten unit interlocking dimmer bank that is divided into three sections The first consists of two 5000 watt interlocking dimmer switches The second unit comprises two 1000-5000 watt and two 2000 1000 watt interlocking dimmers The No 3 bank is a duplicate of the No 2, and is also interlocking This unit is pictured on page 356

Control of the individual units is accomplished by levers, all ten of which are within easy reach of the operator Interlock is made by a 120° twist of the lever handle Each unit can be

(Continued on Page 356)

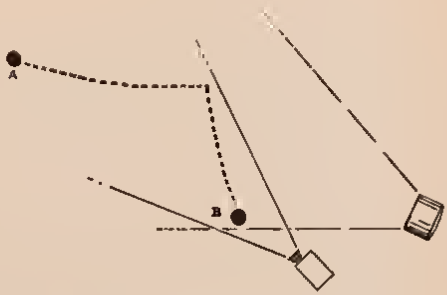

DIAGRAM illustrates typical lightmg problem which is easily solved by use of dimmer banh As player moves from position A to B during shooting of the scene, illumination falling upon him from key light at right increases in intensity as he advances toward camera By controlling key light through dimmer bank its intensity can be gradually diminished as player moves in toward camera with result that density of the light reaching him from key light remains constant for a better photographic result

"Johnny Belinda"

Strict authenticity in lighting and skillful use of filters highlight the beautiful and dramatic photography of this picture by Ted McCord for Warner Brothers.

By HERB A LIGHTMAN

TED McCORD, A.S.C., who won critical acclaim for his virile lensing of 'Treasure of Sierra Madre,' has set a new standard of excellence in his photography of 'Johnny Belinda.' Realizing that this was as much a story of mood as of action, he slanted his photographic treatment to precisely complement the dramatic requirements of the theme. The result is photography so graphically artistic that it appears at times almost an animated etching.

Directed with great sensitivity by Jean Negulesco, the plot of 'Johnny Belinda' concerns a deaf mute girl, befriended by a young doctor from a neighboring town who teaches her sign language and lip reading. She is raped by the town bully and bears his child, whereupon she is ostracized by the townspeople—as also is the young doctor, upon whom suspicion naturally falls. When the illegitimate father tries forcibly to take the baby from her, she kills him with a shotgun and is tried for murder. This is the plot framework over which is laid some of the most beautiful cinema to come out of Hollywood in many years.

Set in the mythical towns of Carcadio and Sydney, supposedly on Cape Breton, at the eastern extremity of Nova Scotia, 'Johnny Belinda' required extensive location filming at Fort Bragg and Mendocino, California—approximately 180 miles north of San Francisco, on the bolder reaches of the Pacific Coast. It was at Fort Bragg, surrounded by the pine and cypress of the rocky northern coastline, that the company spent six weeks shooting action in neighboring towns and countryside. So ruggedly beautiful was the landscape that the Director of Photography had constantly to tone it down so that it wouldn't 'steal the scene' from the actors.

THE RUGGED coastline north of San Francisco was the locale for many of the exteriors for 'Johnny Belinda,' filmed by Ted McCord, A.S.C. The wind machine in above picture augmented the gentle Pacific breeze to produce stronger wind effects characteristic of the Nova Scotia village for which this location doubled.

The prologue of the picture begins with one of the most startling scenes yet to appear on the screen. As the narrator explains that a certain stretch of Cape Breton Island is best approached by boat, the camera adopts a vantage point as if it were actually mounted on the front of a boat skimming in toward shore close to the waves. Then, suddenly, the lens sprouts wings and swoops up into the air to show a panoramic view of the entire countryside. This spectacular scene was shot using a helicopter as a kind of "airborne dolly," and two horses pulling a wagon in the scene became so frightened by the flying windmill that they broke loose from the wagon and bolted for the woods.

The scenes in the prologue, presented as a kind of back-drop to the action, are almost documentary in approach, suggesting the realistic eloquence of 'The Plow That Broke the Plains' and 'The River'—and yet, they have an artistic quality that departs from sheer realism. There is a certain rotogravure texture to these scenes that makes them look almost like lithographs come to life. Cinematographer McCord explains that this unusual effect is the result of using a heavy red filter (usually employed for night scenes) while fully correcting the exposure for daylight conditions.

Filters played an important part in the filming of most of the exteriors, and some of the applications were definitely unconventional. For example, a great majority of the outdoor scenes were filmed through a combination of 23A and 56 filters, a technique usually used to produce a soft moonlight effect. The resulting scenes have a richness that adds great-

AUTHENTIC lighting marks the picture throughout In this hayloft scene a single spot produces the effect of illumination from a lantern

IN MOST of the dramatic scenes lighting is held to low key concentrating attention on the focal point of the action

ly to their pictorial effect. The striking night scenes in the film were achieved through the use of a graduated neutral density filter that darkened the sky almost to black while allowing players moving in the foreground to register satisfactorily. These scenes were shot at sundown so that buildings, trees, etc., might be silhouetted against the horizon. Bright lights placed in the windows of the houses completed the illusion of night.

In one highly dramatic sequence during which the father of the girl is murdered by her seducer, the script called for the somber mood of an impending storm. Actually, the scene was shot on a bright sunlit day that ordinarily would have required an exposure of perhaps f/16. Instead of stopping down his lens, however, McCord shot the scene *wide* open through neutral density filters with a fog filter added for special effect. Wind machines provided the necessary gale. This sequence was shot at maximum aperture to purposely flatten out the depth of field, thus simulating the two dimensional atmosphere of a storm lashed countryside. The effect on the screen is entirely faithful to the mood of the sequence and does not even faintly suggest the bright sunlight under which the scene was actually shot.

One of the main problems of location filming on "Johnny Belinda" was the fact that it was impossible to view the daily rushes, as is always done at the end of each day's shooting in the studio. All the cameraman ever saw was an occasional batch of Cinex strips sent up from the lab, he had no exact knowledge of how his special effects were registering on the screen. Another problem typical of this type of filming was the difficulty of matching the quality of the studio footage to that of the scenes shot on location. In setting up his studio scenes, the cinematographer had to imagine how each scene would have been lighted in the actual location, and match his lighting set-up accordingly.

"We bent over backwards to make all lighting coincide with natural sources," McCord explains. "If a lamp were shown as the sole source of light in the scene, we would use a single lighting unit to duplicate the angle of illumination. If, during the course of the action, an actor stepped out of a lighted area into one where no light would logically fall, we let him go into shadow or silhouette, just as he naturally would. In one scene, all of the light came from a single concealed 5,000 watt lamp of the type we would ordinarily use for a work-light back at the studio."

Lighting in the more dramatic sequences of the picture is held to a low-key which intensifies the impact of the situation by concentrating the audience's attention on the focal point of the action. This effect is especially well conceived in the seduction sequence in which the only source of light is a lantern. The background is allowed to fall off into darkness and the players are dramatically cross-lighted so that they stand out with three dimensional depth. As the man approaches the girl, his shadow falls across her, completely blacking her out except for her terrified eyes. The audience's attention is sharply directed exactly where it should be.

A 28mm wide angle lens was used almost exclusively in filming "Johnny Belinda" even for close-ups. In several cases the wide-angle effect was exaggerated through the use of a diminishing glass, an auxiliary element that fits over the lens and produces an extreme foreshortening of the composition. This element resulted in some striking effects but required very careful handling since it characteristically distorts at the edges of the frame. For this reason, it could only be used in scenes where the camera remained static.

McCord took full advantage of the artistic possibilities offered by the landscapes and settings. His long shots of the countryside with cypress trees silhouetted against the sky are visually poetic. His compositional treatment of a white "American Gothic" church is strongly suggestive of a Grant Wood canvas. Especially effective are shots in which a bit of close-up action is played in the foreground close to the frame line, while a player's face is centered in the background reacting to the action. In one scene, for example, a violin is played in the foreground while the girl's face is shown reacting to it. In another scene the hands of the young doctor speaking sign language are seen in the foreground as the girl reacts to his message.

Low angles combined with low-key lighting and wide-angle compositions project a style that exactly fits the dramatic moods of "Johnny Belinda." This combination is unusually effective in the child birth sequence of the film. The scene is the interior of the farmhouse at night. In the foreground is the stairway leading to the second floor bedroom. A hall leads away from the camera toward a kitchen in the depths of the house. The action is played from this distant area to the foreground staircase and on upstairs to the

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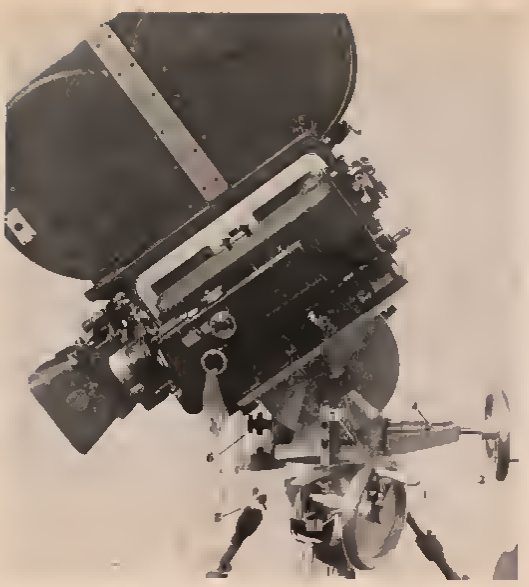

NEW GEAR head which is half the size and half the weight of ordinary ones allows a 38° tilt and incorporates many unusual features indicated by figures 1—crank for panning 2—crank for tilting 3 and 4 braking levers 5—two-speed control for pan operation 6—release frees camera head from tilting mechanism and 7—two-speed control for tilting action

Two Aids To Better Photography

New gear head, which lends greater mobility to camera, and novel electric telescoping parallel that speeds up camera operations also effect production economies.

By RALPH LAWTON

AMONG THE several new equipment ideas that have progressed from mere drawing board sketches to reality recently at the Samuel Goldwyn Studios are a radically new precision gear head for cameras and a telescoping, electrically controlled parallel. Conceived by Gregg Toland, A.S.C., and engineered to completion by head grip Ralph Hoge, both pieces of equipment are potential contenders for Academy awards.

The gear head is the result of Toland's frequently encountered need for one that would afford a greater degree of tilt and that would not creep when the camera was tilted at a sharp angle. Toland and Hoge put their heads together, made a few sketches which Hoge took to his workshop, and the new head came into being.

It fits any tripod, boom or crane, weighs 59 pounds compared to the 120 of most heretofore in use, and mounts the camera six inches lower. It affords a full 38° tilt and complete 380° pan action. It is said to be the first automatically counterbalanced crank head that enables the camera to be operated freely at any angle with the same ease as at the horizontal level. Counterbalancing is by an extension compression spring of special design. The whole mechanism is so accurately stabilized that it is possible to work the camera with several lamps mounted on it at top, sides or bottom without upsetting balance.

Some of the most important features of the crank head are indicated in the illustration above. Controlled panning is by means of the crank-wheel 1 and the tilting action by crank-wheel 2. Various degrees of tension may be applied to either action by adjusting the braking levers 3 and 4. Either crank may be disengaged from its shaft. Thus the extent of a pan or tilt action may be carefully set after a rehearsal by freeing the crank and setting it so that termination of the pan, or tilt will come when the handle is at top position—or at any other position desired by the operator. The lever for the panning movement is shown at 5 and for the tilt action at 7.

Levers 5 and 7 also have the function of providing two speeds for the respective movements. Move the levers forward and the tilt or pan action works at high speed, in the opposite position the speed is halved.

The knob shown at 6, when released, frees the tilt head from the gear assembly so that the camera may be moved up or down by hand. Releasing the knob does not release the counterbalancing mechanism, however. There is also provision for using a long handle for the tilt action, when the head is disengaged from the gear train.

The first gear head was completed in May 1948, and used by Gregg Toland in filming 'Enchantment.' The head has since been used by Carl Guthrie, A.S.C., at Warner Brothers, and by A.S.C. members Hal Mohr, Lee Garmes, Lucien Andriot and William Mellor.

The electrical parallel, mentioned earlier, is actually a portable elevator for which many uses have been found in the studios. Originally Toland designed it as a flexible camera parallel, but electricians have found it ideal for mounting lights, and as a light boom when a plank is extended from the platform and a spot or floodlight mounted upon it. Even the sound department has taken to it and have frequently used it for elevating a mike boom when same is to be used at variable heights.

(Continued on Page 352)

TELESCOPING electrically controlled parallel designed by Gregg Toland A.S.C., which affords working heights ranging from 24 inches to 14½ feet

SPEED CAMERAMAN

Rated one of the fastest working cinematographers, Woody Bredell is one of the few Directors of Photography who worked up from the ranks of still men.

By FRED BANKER

ONE OF Hollywood's thousand oddities is the fact that the Director of Photography never operates the camera

He knows how and, in most cases, was a cameta operator for years of apprenticeship As a Director of Photography he now occasionally glances through the finder to see how the picture looks He orders the angle from which the shot will be made and the speed with which the camera is to dolly in or out But he never sits on the little leather seat at the end of the boom and turns the wheels His big problem on a motion picture sound stage is the lighting

One of Hollywood's recognized expert directors of photography is Elwood Bredell, known to everyone as 'Woody" Bredell's recently completed photographic assignment, 'Romance on the High Seas,' with Jack Carson and the singing find of the year, Doris Day, is in Technicolor Typical of Woody's unconventional approach to movie photography was his first convetsation about this film with Director Michael Curtiz to whom he is under contract at Warner Bros

'Mike," he said 'this picture's going to be in color Let's paint everything neutral"

Curtiz was startled at first but he is a man who will do anything for realistic effects and he soon realized that Woody had a sound idea

"Whenever one talks 'color for a picture, said Woody, 'everybody goes mad The writers dream up the most fantastic night clubs for their actors the set decorators paint wild looking furniture, makeup wants to dye everyone's hair and wardrobe wants a rainbow effect in every scene Let's try to make it natural this time"

Woody got his way and had all the walls and furniture painted either a neutral gray or a light green He eliminated all wild colors in the background while allowing only pastels in the costuming Result was that the players came out in natural relief, there was no meaningless glamorization of the sets and the great majority who saw the preview said it was the first color picture that had not actually hurt their eyes

Woody is a matter-of-fact person who leaves the arty talk to those who have more time to waste and concerns himself with two questions Will it work? It is believable?

His photographic answer to the last question made him the town's most sought-after cameraman when The Killers was first released

'The Hemingway story, said Bredell, 'was a perfect chance for me because I had always wanted to take a crack at a show where nothing had to be beautiful"

WOODY BREDELL and his assistant discuss the lighting on Viveca Lindfors as they prepare to shoot a scene for Warner Brothers' Technicolor production Adventures Of Don Juan

Pursuing his ideal of stark realism Woody won a carte blanche camera decree from Producer Mark Hellinger to light the film exactly as they would be seen in real life

The famous poker game, consequently, turned out to be one of the greatest departures in film lighting of all time Bredell reasoned that when six men gather for a little stud in a rooming house they usually have one light to play by and that is the single globe reaching from the middle of the ceiling over the table He substituted a globe with more power so that the negative would take it, and shined a small light from under his lens in order to make the eyes of the players visible He did not use a spotlight or any other lighting of any kind He let the deep shadows under the players eyes and around the lower parts of their faces remain and the result was a tense, highly dramatic sequence

Similarly, the party sequence in which Ava Gardner sang in a night club was lighted only by the lamps on the tables themselves At the opening of the film, the long street down which two men walk toward a hamburger joint, would ordinarily have been flooded with 50 or 60 arcs Woody used four and let the shadows tell the story

"Incidentally," said Bredell, Ava Gardner was the first actress I have ever been able to talk into using no makeup All we did was rub a little vaseline into her skin for a sheen effect

Woody said that most actresses, even the comediennes want to look beautiful He added that many stars can be of great assistance to a cameraman on this matter Beauties like Gene Tierney and Marlene Dietrich, whose poses are stylized to a great extent, learn to "feel light" After making so many pictures they know instinctively when lighting is wrong even before the cameraman does and they can guide him He considers June Haver a 'cametaman's vacation

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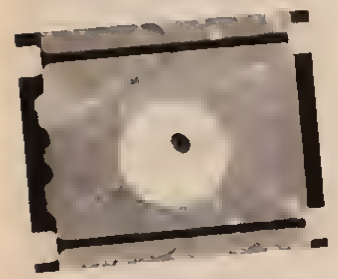

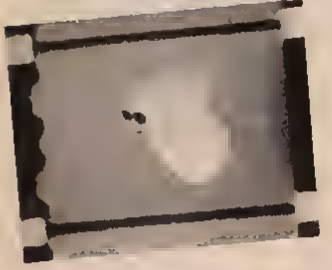

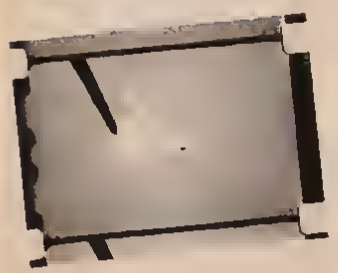

There's Gold In 16mm., Too!

The man who just missed an Academy Award for photography on "Lifeboat" turns his talents to business film production. His first picture, recently completed, is a potential prize-winner about fishing.

By MELBA HOWE

IMAGINE getting the cameraman who filmed 'Lifeboat' and scores of other successful feature pictures to make your 16mm business film! But it's possible Glen MacWilliams, A.S.C., who lent his cinematographic artistry to Hitchcock's memorable production, has finally fulfilled a dream that has persisted through the many years he piloted big studio Mitchells on sound stages here and abroad.

Glen deserted the Hollywood sound stages just a little over a year ago to form his own 16mm picture company known as Polly Pictures and dedicated to the making of high calibre— Tiffany-class, he calls it—16mm commercial films. He first became interested in industrial film production through the inspiration of Watterson Rothacker, one of the pioneers of the industry. He made up his mind then and there that one day he, too, would get into the business.

Kept busy as a director of photography by major studios, Glen nevertheless maintained a constant vigil on the development and progress of 16mm industrial film production. The urge to enter this field became stronger as real professional 16mm cameras came into existence. He finally capitulated when the advantages of Eastman's new duplicating Kodachrome film was demonstrated. Up until then the success of a commercial 16mm color film depended too much upon the caprice of the laboratory entrusted with making the dupe prints. The new duplicating film, he felt, would insure that his careful photographic work would be reproduced in highest fidelity. The organization of Polly Pictures followed.

REPRODUCED at left are film clips from "Forever Angler," initial 16mm. commercial film production by Glen MacWilliams, A.S.C. Pictures represent the rare biological sequence which highlights the film. Top picture shows handful of trout eggs and the succeeding pictures show development of an egg through the embryo stage. The highly magnified closeups were made with a Cine Special and powerful telephoto lens.

Most of the things he had seen being done in this field—and costing a lot of money—were just a lot of 'nuts and bolts.' "I was convinced, Glen says, "that a commercial motion picture could be produced that would have entertainment, educational and advertising value, all three, and I think this has been proven by Polly Pictures first production, Forever Angler filmed on Commercial Kodachrome."

His statement has been substantiated by several facts. Forever Angler" has been accepted by the Audio Visual Education Departments of the Los Angeles City and County schools to be used in their audio-visual programs. Commercial films, before being accepted by school systems, are subjected to rigid inspection and only those are accepted which are outstanding and in which the advertising, if any, is educational and constructive.

His sponsors, Wright & McGill Company, Denver, Colorado, gave Glen a free rein to write the story and produce the picture, and when it was completed and screened for them they enthusiastically accepted it without a change.

Following preview of the 1200 foot color picture, the press came out with laudatory reviews. Columnist Erskine Johnson wrote: "I'm happy to report that someone has finally made a great juvenile anti-delinquency film. It's a 30-minute 16mm. short in color which preaches, via Bob Burns narration, 'Take a boy fishing and keep him off the streets.' Glen MacWilliams, who produced and directed for his own company, can take a bow." And Jimmy Starr said: "Glen MacWilliams set out to do something subtle in the manner of advertising films. 'Forever Angler' concerns fishing—all kinds—and the care that goes into the making of fine hooks, rods, flies and lures. The production was done exactly in the manner of an important travelogue and the result is excellent. Not only did I suddenly have a desire to go fishing but I was highly entertained by seeing the in-

(Continued on Page 361)

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OLLIE COMSTEDT, A.S.C., and Dorothy Hane, his script writer, recently covered more than 12,000 miles by station wagon throughout Sweden in order to photograph "Swedes At Work and Play," a 16mm documentary in color

FOR UNUSUAL shots in the Laplanders' skiing sequence, Comstedt used his rare and costly zoom lenses; but whenever a still different cinematic effect was desired, he improvised new trucking devices, such as shooting from the dog-drawn pulka, as shown at right

COLOR is his forte . . .

Discovery of a magic lantern in an attic when a boy sparked an interest in screened pictures for Ollie Comstedt, A.S.C., that was to guide his destiny and ultimately lead him to specializing in color photography.

By ARTHUR ROWAN

WHEN OLLE COMSTEDT, one of Sweden's foremost cinematographers and an internationally known expert on color photography, was chosen for membership in the American Society of Cinematographers, he became the first Scandinavian to be so honored by the Society. He was once the first to use 35mm Plus-X panchromatic film in Sweden—his colleagues refusing to have anything to do with it at the time—and he was the first man in this country to successfully shoot 16mm Commercial Kodachrome. He was also the first cameraman to simultaneously acquire zoom lenses for 16mm and 35mm cameras. And more recently he received delivery from Karl Freund, A.S.C., of the first Spectra color temperature meter to come off the assembly line—culminating a long list of "firsts" which have played such an important part in his cinematographic career.

Between 1936 and 1939, Comstedt directed the photography on an even dozen Swedish major feature films, including Signe Hasso's first picture, and also produced, directed and photographed a number of short subjects on his own. In recognition of his achievements in the Scandinavian motion picture industry, he was honored with a Fellowship by the American Scandinavian Foundation to study motion picture color production, and arrived in America just before the outbreak of World War II. He joined the staff of the motion picture studio of the research laboratory of Eastman Kodak Company at Rochester, where he did exploratory work on several color processes. For more than a year he worked with Dr. J. G. Capstaff, one of the world's leading color scientists.

During the war, Comstedt produced a number of films for the State Department. These were documentary accounts of life in the United States and were subsequently distributed mostly throughout South America. Later he directed and photographed a number of 16mm industrial films in color for some of America's largest concerns. Some of these pictures have since been released in Chinese, Swedish, French, Russian, and Spanish versions.

Comstedt's most recent filming assignment, completed only a few weeks ago, consisted of a series of documentary color films on Sweden and Denmark. The

(Continued on Page 358)

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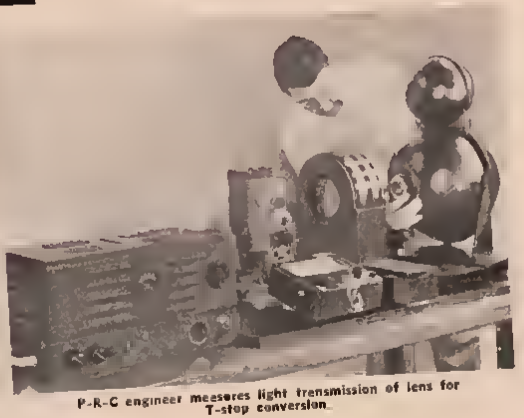

P-R-C engineer measures light transmission of lens for T-stop conversion.

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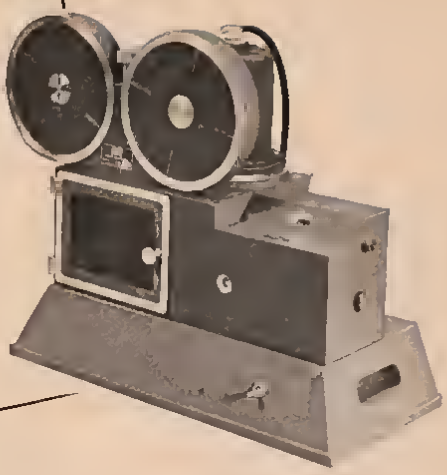

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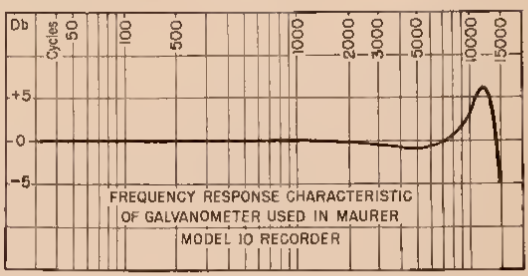
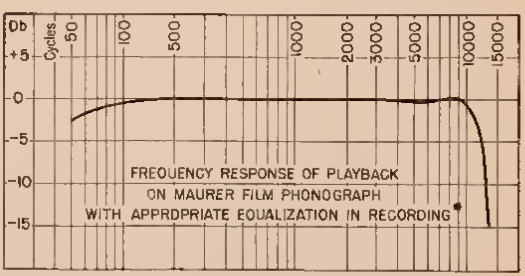


FREQUENCY RESPONSE CHARACTERISTIC OF GALVANOMETER USED IN MAURER MODEL 10 RECORDER



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On this set the producer has matched use of the most modern 16mm sound camera and dolly with the best of modern lighting techniques proved in years of feature film production. Because of the smaller, more compact set, a minimum of lighting units, skillfully used, furnished all the lighting necessary. Photo courtesy Raphael G. Wolff Studios.

Set Lighting For 16mm. Business Films

How the science of major studio set lighting may be applied successfully, yet economically, in the production of 16mm. films.

By CHARLES LORING

TO THE PRODUCER of commercial 16mm motion pictures, set lighting may not be the ambitious project it is in Hollywood studios—but nevertheless it involves considerable planning and skill in execution if a professional effect is to result.

When we speak of "sets" in commercial production, we include not only those constructed on the shooting stage, but also location interiors which frequently become stages for the action of a commercial or industrial picture. The basic techniques of set lighting, which we will analyze, apply both to studio sets and location interiors. The main difference is the fact that light can usually be controlled more precisely in the studio than it can on location. On location, however, it is sometimes possible to obtain unusual lighting effects characteristic of the locale itself.

Aside from the basic mechanical problem of getting enough exposurable light to photograph the subject, the cinematographer's main objective is to light his set so that it will appear natural to the situation, in key with the subject, and visually interesting. It is presumed, of course, that he will have sufficient illumination units available to fill the demands of the particular lighting problem. From there on, his aim will be to apply these units toward achieving the best possible result.

Every script, whether it be an entertainment feature or a commercial short, consists of a number of sequences each of which has its own particular mood. In designing lighting set-ups for these separate sequences, the cameraman will do well to consider the mood of each and slant his lighting pattern accordingly.

Some sequences, for example, will call for high-key treatment because a light, positive, buoyant mood is indicated in the script. Certain other sequences—especially those having a somber, mysterious, primitive, dramatic or nocturnal mood—will register most effectively if a low-key pattern of lighting is used.

A high-key lighting scheme implies a generally high level of illumination with relatively light shadow areas and crisp highlights pointing up various elements of the set. In a high-key sequence the background is brightly lighted and heavy shadows are avoided.

Low-key lighting, on the other hand, is characterized by a low level illumination, a softer key-light, less fill light, and a greater depth of shadow. The aim of low-key lighting is not merely to create mood, but to concentrate audience attention by witholding light from all but the most important areas of the set.

Having once decided the predominant mood and the lighting key which will best complement it, there yet remains another important consideration—that of source. Source is nothing more than the element which is supposedly giving off the brightest light in the scene. This may be a sunlit window, an open doorway, a lamp, a fireplace, or anything else that gives off or admits light. No matter what the apparent source in the scene, however, lighting should be so arranged that it will appear as if it is coming from that source.

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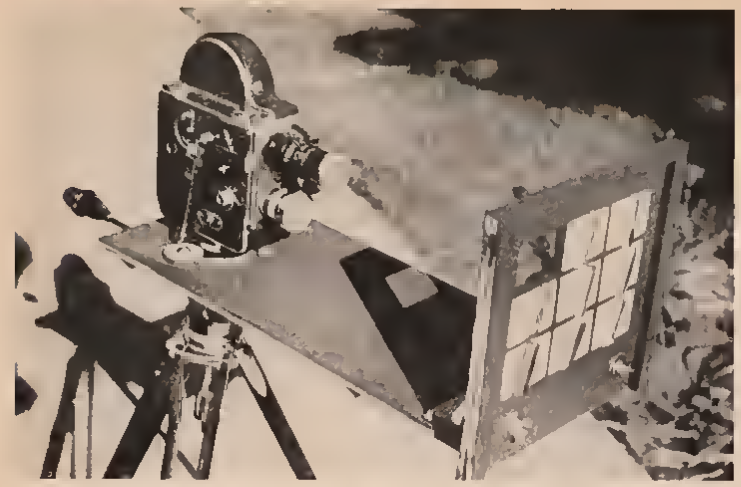


AN INGENIOUS masking device made by amateur movie maker Rich Johnston, which divides the film frame into nine sections affording nine superimpositions on one frame of film. With it he produced a novelty film in 16mm color entitled "Nine Little Sisters," in which one little girl enacted the role of nine sisters, all appearing in action in nine windows of a home. The frame, finished flat black on side facing camera, has nine separate removable segments. Space between camera and frame is covered with black cloth while shooting takes place.

Matte Box Tricks

Special effects with matte box and multiple exposures are easy for any movie amateur to make. Here the man who used to dream up and execute all the trick shots for the old Keystone comedies tells how to do it.

By FRED W. JACKMAN, A.S.C.

IN THE DAYS of silent movie making, we made all trick effects right in the cameta, the same as movie amateurs do now. Today, advanced production methods in the studios enable these effects to be produced more efficiently by the special effects department, using optical printers and other equipment. But the movie amateur with more time available and with the desire to produce film effects himself can achieve a wide range of cinematic tricks, using only his camera plus a few gadgets which he usually can make in his garage or workshop.

Last month we recounted some of the tricks that are possible with 8mm and 16mm cameras, when shooting with the camera held or mounted upside down, in order to produce action in reverse on the screen for both comedy and dramatic effect. This month we shall take up trick effects that are made by double and multiple exposure. Double exposure consists of making two separate exposures on one and the same film area or frame. To be able to do this with your movie camera, it is necessary that there be some means of winding back the film. An additional help, but one not absolutely necessary, is a frame counter.

Where the camera is fitted with a windback knob or crank, winding back film is no problem. Cameras that are not so equipped by the manufacturer usually can have a windback and frame counter installed at nominal cost by one of several firms specializing in this work. Cameras such as the late model Bolex and the Cine-Kodak Special afford both features. Others, such as the Victor Model 5, provide backwinding but do not have a frame counter. Counting frames with these cameras may be done by counting the turns made with the windback crank—each turn representing so many frames of film.

Lacking the windback attachment, the next best thing is to open the camera and wind back the film by hand to a predetermined starting point indicated by a notch previously made on the edge of the film. This must be done in a darkroom, of course.

To double expose a clean cut image over a previously exposed frame of film, it is first necessary that there be a certain area of that film frame left unexposed during the first exposure, so that the second exposure will register normally. This requires either masking off part of the frame or covering certain objects or parts of the scene area with a black cloth, which should be of velvet or felt. Thus, when the first exposure is made, that part of the scene masked off or covered with the black cloth will appear black to the emulsion and therefore be unaffected by the exposure. To make the double exposure, the mask is removed and placed over that part of the frame previously exposed, and the second exposure made.

Another use for the black cloth is in superimposing a vision or dream action in the scene. To photograph the vision, first shoot the scene with ordinary lighting and correct exposure. Then, capping the lens, wind back the film to the beginning of this scene, and remove the lens cap. The camera is now ready to film the scene or action to be superimposed over the first.

To eliminate any background images in the second exposure, cover the entire set with a black cloth, and have your ghost or image actor perform before it. Set your lens for a half-stop less exposure in making this superimposed shot. On the screen the player will appear as a transparent figure moving around the set with the background clearly visible through his body. An exposure rule to remember in making such shots is to close down your lens for transparent ghosts, and open it up slightly more than normal for opaque figures.

Where multiple exposures are called for, then you will need a matte box for your camera—one carefully and accurately made, that provides slots for masks. The matte box makes it possible for you to mask off any portion of the film frame and to re-expose the previously masked off areas without showing any line of demarkation between the two on the screen. By the use of masks before your lens, you can make one person appear on the screen in dual roles, each occupying separate halves of the film frame.

Matte boxes, of course, assume all manner of shapes and sizes, depending upon the movie amateur's needs. Take the one illustrated here. Actually it is not a matte box at all but a mask frame. The frame consists of nine separate masks which enable the filmer to photograph nine separate images or fractions of the film frame on a single frame of film.

Rich Johnston, of Ogden, Utah, made the gadget in order to photograph a movie idea he had dreamed up which involved

(Continued on Page 350)

Cine-Kodak Editing and Titling Equipment will help you to keep your shows moving smoothly... to add editing's "Hollywood touch" to your personol reels. See these movie-bettering items at your Kodak deoler's...

Here's what you need for BETTER movies...

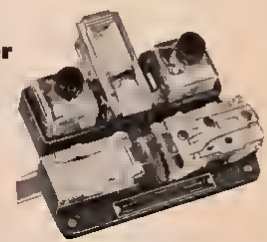
Cine-Kodak Master Editing Outfit

A sturdy rewind is a real editing convenience. And the Cine-Kodak Master Editing Rewind for 16mm movies, part of the Master Editing Outfit pictured right, is tops among rewinds. It's steady enough for 1600-foot reels — and its all-metal construction keeps it rock rigid, always. The Cine-Kodak Senior Editor, on a base of well cured hardwood, also includes an excellent rewind that accepts all 8mm and 16mm reels through the 400-foot size. Both outfits have geared spindles, of course, for convenient winding and rewinding.

Cine-Kodak Editing Viewer

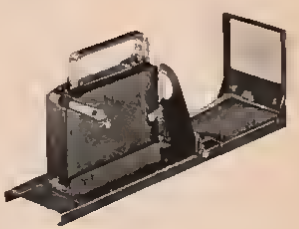
Cine-Kodak Editing Viewer shows your movies as you wind or rewind your films . . . really simplifies editing. Your movies are projected on a ground-glass screen and when you come to a scene to be cut, or to a place where titles or other scenes should be inserted, finger-tip pressure on a lever harmlessly notches the border of the frame being viewed, to make possible easy reference. The Cine-Kodak Editing Viewer, part of the Cine-Kodak Master Editing Outfit, is also supplied separately in 8mm. and 16mm. models for use with other rewinds.

Cine-Kodak Senior Splicer



A splicer that welds film securely and evenly so that your splices stand up in use and don't "jump" in projection is a basic editing requirement. Cine-Kodak Senior Splicer qualifies in both respects—and on the count of convenience, too. This handy little unit contains everything needed—a block to hold film securely, a cutting arm, a scraper to prepare the base for the splice, and a pressure clamp that joins the film and applies the *equalized* pressure essential to smooth, durable splices. Cine-Kodak Senior Splicer, included with the Master Editing Outfit and the Senior Editor, can be purchased separately for use with both 8mm and 16mm film.

Cine-Kodak Titler



Titles add the finishing touches to your personal movie reels . . . keep your film story flowing smoothly. The inexpensive Cine-Kodak Titler provides the *easy* way to home title making. You simply slip a typed or lettered title card into the easel (a supply of colorful cards is included with the outfit), align your camera with the Titler's built-in lens, and press the exposure button. The result—storytelling punctuation for your movies. The Cine-Kodak Titler can be used with all Cine-Kodak cameras—8mm and 16mm—except the Cine-Kodak Special.

EASTMAN KODAK COMPANY
Rochester 4, N. Y.

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Cine Kinks for Movie Amateurs

SPLICERS CAN BE cleaned of gummy substance adhering to the pressure plate by applying film cement with regular applicator, then wiping quickly with a clean dry cloth The acetone in the cement will soften the gummy accumulation

•

SHORT LENGTHS OF TITLE film, which you process yourself can be dried quickly and safely by using a simple rack consisting of an ordinary wooden dress hanger, which has been pierced with four or five holes and 12-inch lengths of stout wire run through Form hooks on both ends of each wire Hang film on hooks through sprocket holes

•

FILM WILL NOT UNRAVEL from overloaded reels, when threading your projector, if you will first place a stout rubber band around the sides of the reel Remove the band just before starting your projector

•

TO PLACE OIL IN hard to get at lubricating holes on your projector, place a beverage straw over the tip of your oil can Straw becomes an extension of oil can spout

•

TO CAIN HEICHT FOR your easel or wall type movie screen tie a heavy batten in upright position to the back of a dining chair, insert a hook at the top and suspend your screen

•

LENSES FROM DIME STORE reading spectacles may be used as supplemental lenses for titling and ultra-closeup photography Focal range of such lenses is usually indicated on small label on each lens, so you can easily make a choice to fit your needs

•

CARBON TETRACHLORIDE, sold in small containers as a cleaner and spot remover, is ideal for cleaning your movie films, black and white or color It quickly evaporates, leaves no oil or scum Apply small amount to lintless white cotton cloth and press against film between fingers, shifting cloth occasionally to bring clean surface to bear against film as it is being rewound Be sure to use Carbon-Tet in a well ventilated room as the fumes are toxic The material is noninflammable

•

INK THAT FLOWS smoothly on celluloid and therefore ideal for lettering titles on this substance is Craftint No 147, sold by the Craftint Mfg Co, Cleveland, Ohio

MATTE BOX TRICKS

(Continued from Page 348)

showing the doings in a day of nine little sisters His nine year-old daughter enacted all nine parts—each in separate costume and dress and with different props The film, Nine Little Sisters," has since taken many prizes in amateur film contests

Shooting the picture required making nine separate exposures on a hundred-foot roll of film—winding back the film eight times and re-aligning the camera for the same number of times The setting was an ordinary window and each time the action began with the drawn window shade being raised to reveal the girl behind it She was shown in such action as telephoning a friend, listening to a horror radio program, cramming for a school exam, playing with her favorite doll, etc On the screen, the picture begins with an introductory title that states that Once upon a time there were nine little sisters who lived in the same village, on the same street, in fact in the very same house" And then each of the nine window shades are raised at carefully timed intervals until all are up and we see the nine sisters all performing simultaneously in carefully rehearsed action It is a startling novelty as an amateur picture, and is the result of skillful and painstaking camera work on the part of the filmer

The mask frame, as may be seen, is mounted on a substantial base before the camera and is divided into nine sections Each section fits by pressure into its proper opening and the whole surface facing the camera is coated with black flock When actual shooting takes place, a black cloth extends over the camera and mask frame, forming a light-tight matte box In shooting the picture, one of the mask sections is removed, and the scene lined up by sighting thmugh the camera's reflex viewfinder The shot made, the mask is replaced and another one removed, and the procedure repeated This is continued until all nine sections of the film frame are exposed

With a little ingenuity, any variation of this simple matte frame may be used by the movie amateur to achieve multiple exposures in his movies The essential requirements for a matte box are, first and foremost, that it must be securely fastened to the camera and, second, it must be carefully aligned with respect to the camera so that the second or subsequent placement of masks will be accurate

If you own a typewriter titler, you can convert it temporarily into a matte box by simply enclosing the space between camera lens and title card holder to make it light-tight This can be done by making a box or cone-shaped enclosure of ordinary cardboard This should be painted flat black on the inside and be light-tight, especially where it fits around the title card holder

The card holder takes your mattes and enables you to provide markings around the frame to indicate the exact center, as well as quarter, eighth and angular divisions The mattes may also be made of cardboard and should be painted black on both sides Ordinarily Jet Oil shoe polish or India ink will do for this

A thing to be remembered is that the farther away from the camera the mattes are located, the sharper the line of demarkation between the two images on the screen For this reason, where a sharp line of demarkation might destroy the trick illusion, the matte is kept closer to the lens It is advisable for the beginner to make a few tests with his matte box and lens stops at different positioos, in order to determine which combination will give the most satisfactory results By trying different lens stops with the mattes set nearer or farther away from the lens, ultimately you will discover the right combination that will produce the most satisfactory blend at the dividing line between the two or more exposures Such tests may be quickly developed by hand to determine results before proceeding with regular shooting

By way of suggesting some of the numerous trick effects that are possible, using the multiple exposure and matte box technique, the following are a few of the comedy effects we contrived for some of the old Mack Sennett Keystone comedies, using only a matte box or a few yards of black velvet

(1) The gag of an endless stream of Keystone Kops emerging from the rear door of a sedan The camera would focus on the car from an angle up front, with half of the car masked off, thus obscuring the horde of Kops entering the car door from the opposite side

(2) The crash of two cars at the intersection of two streets at a V The scene was masked so matte bisected the scene exactly in the center of the V. Then the Kops cars were timed to meet at the same point from the opposite direction In the editing, the shot was cut abruptly where the cars meet and an exposion shot intercut at this point, followed by a closeup of the wreckage

(3) Action taking place before a garden wall with Mt Fujiyama or some other notable peak or edifice in the background, or the same garden wall made to appear as a dam for a lake—the lake in the upper half of the frame being a superimposition of a postcard picture, as was the image of Mt Fujiyama In both instances, the mattes would divide the scene horizontally (Turn to pg 352)

INCIDENT LIGHT is the better method

THE NORWOOD DIRECTOR is the best means for determining correct exposure

Yes, the superiority of exposure determination through the accurate measurement of incident light has been proved. Incident light is all the light illuminating the camera side of the photographic subject. This light comes from behind and in front of the subject—from above and below and from both sides.

In determining photographic exposure with the incident light method, it makes a whale of a difference whether you use an exposure meter specifically designed for incident light measurement, or, a reflected light type meter which is altered only in one department to read incident light.

Only a 3-dimensional, hemispherical light collector and integrator, such as the patented PHOTOSPHERE* on the Norwood Director will collect, integrate, and transmit to the photoelectric cell all of this incident light.

Then, the 3-dimensional light collector and integrator must be augmented by an especially designed, precise microammeter—a photoelectric cell of certain definite characteristics together with especially arranged foot-candle scales, calculating dials, and accurate calibrations referenced from an internationally recognized light standard. When these points are provided for, you have a true incident light exposure meter.

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The development of the Norwood Director by Captain Don Norwood, nearly ten years ago, marked the only major improvement in determining photographic exposure in a generation. For several years the Norwood meter was available only to professional cameramen in Hollywood motion picture studios. Now, tens of thousands of professional and amateur photographers use the amazing new Norwood Director and it has received their unqualified and enthusiastic endorsement.

This general acceptance by camera users is responsible for the tremendous success of, and increasing demand for, the Norwood Director—the original and only true incident light exposure meter—the meter with the patented PHOTOSPHERE*.

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25 YEARS AGO

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• GLORGE RIZARD accompanied by electricians and orher assistants, moved their equipment from the studio to Evelyn Brent s home in order to shoor closing scenes from Metro s 'Held To Answer ' Miss Brent had been confined to her home because of illness

• JACKSON J ROSE'S comprehensive and authoritative article on the use of reflectors appeared in the September, 1923, issue of The American Cinematographer

• ROSS FISHER was shooting Douglas MacLean's independent production, Going Up"

• JOHN SEITZ was in charge of The American Society of Cinematographer's fourth annual ball to be held in October, 1923, ar the then new Biltmore Hotel ballroom

• H LYMAN BROENING left for Tennessee with Allen Holubar company to film 'The Human Mill for Metro

• STEPHEN S NORTON was enlisted by John Griffith Wray to aid in the filming of important sequences for "Annie Christie,' a Thomas H Ince feature

• JOHN ARNOLD was in charge of the camera work on Viola Dana s newesr picture for Metro Angel Face Molly," directed by Oscar Apfel

• CHARLES RICHARDSON who had been assistant ro Arthur Edeson for six years, was admitted to membership in the A S C He had recently completed In Old Madrid, srarring Clara Kimball Young

• LUCIEN ANDRIOT completed the photography on In rhe Palace of the King,' for Emmett Flynn Previously he had photographed Monte Cristo and 'The Connecticut Yankee, also for Flynn

• CHARLES ROSHER was making preparations for filming Dorothy Vernon of Haddon Hall, which was ro star Mary Pickford under the direction of Marshall Neilan He had just completed photography on Tiger Rose, for Warner Brothers through courtesy of the Pickford Studios to whom he was under contract

• REGINALD LYONS was enjoying a thirty day location trip to San Luis Obispo where he was photographing an automobile racing picture for Universal starring Reginald Denny. An automobile racer himself, Lyons had his racing car along and was burning up the track when not occupied behind the camera

• ANDRE BARLATIER returned to Hollywood from San Mateo where he had been photographing Half a Dollar Bill Max Graf Metro production

(1) Fatty Arbuckle ducking behind a narrow post, then emerging from the opposite side—the result of a simple vertical half-and-half masking in which Arbuckle walked behind the pole while the mask was in one position and from behind it when the mask was reversed in position and the double exposure made

(5) In another instance a scene called for Chester Conklin to dangle perilously from a third-story window while Phyllis Haver, reaching from a window in the next floor below tried to rescue him, while an angry bull snorted and pawed near the building on the ground floor, ostensibly awaiting Conklin s fall Filming this scene called for making three exposures and masking off the frame into three horizontal sections, as no three-story building was immediately available—especially one with a bullpen adjacent

To summarize, here are some of the effect shors you can achieve, using a matte box a subject dreaming, with the dream vision appearing in a portion of the scene, player disappearing behind a pole or tree, the action of two parties at two different locations, as in a two-party telephone conversation, the action of two groups taking place in rooms one above the other—for instance, a big party in progress on the second floor being interrupted by tenants in the apartment below banging on the ceiling with a broomhandle, or a four-image montage in which four separate actions occupy each of the four quarters of the film frame, a pattern made popular by a well known newsreel company There are many other possibilities, too numerous to mention

Whether you are about ro shoot a homey, backyard comedy or a serious photoplaylet or documentary, it is possible to greatly enhance the production value of your picture with skillfully executed matte shots, when and if they can be appropriately applied Never, we should admonish again, should you use a trick effect simply ro demonstrate it on the screen Unless the effect will add to the story telling, unless it can be applied subtly, it is best to avoid it On the othet hand, don t neglect the use of matte shots if they can definitely enhance your picture Nor should you avoid an attempt at matte shots because you haven t ready made equipment for the purpose As pointed out some of the best trick sequences in amateur movies have been accomplished with matte boxes contrived as part of a filming project and easily put together from materials gatheted around the family garage or workshop You can do the same

TWO AIDS TO BETTER PHOTOGRAPHY

(Continued from Page 340)

Ordinarily when a company goes into production on a set, several parallels of assorted heights are kept available on the srage Toland s telescoping electrical parallel replaces all of them Affording parallel heights ranging from 24 inches to a maximum of 14 feet 6 inches, it provides a wider range of convenience than would an assortment of old style parallels and takes up less room on the set Moreover, fitted with wheels, it is mote readily and easily moved

Constructed of welded tubular steel, it comprises three telescoping sections which are raised or lowered by means of four 3/16 inch stainless steel cables These terminate at a windlass driven by a powerful 110-volt DC motor rhat will lift a maximum of 2800 pounds Motor control, instead of being on the platform, is at the base of the parallel as a safety factor to prevent accidents to any who might be standing beneath the platform when it is being lowered

Four swivel, rubber-tired casters give the parallel easy mobility and there are four step-locks, one adjacent to each caster, which enable securing it solidly in position after being set in place Its total weight, including the motor and driving mechanism, is 900 pounds It may easily be telescoped loaded on a truck and taken on location, in which case power for the motor is supplied either by the electrical department s booster light generator, or by a small DC generator available for the purpose

Another use which has been found for the parallel is in mounting background projection equipment ar an elevation—particularly where the elevation must be adjusted as the process shot is made in order to keep the angle in conformity with that of the camera where camera is moved in or pulled back.

First developed and used in 1947, the parallel more recently saw service at Warner Brothers studios when Ernie Haller, A S C, employed it in filming "Happy Times ' Karl Freund, A S C, used it on 'Montana, Anton Hoch, A S C, found it of immeasurable help when shooting interiors for Tulsa,' and it was responsible for some of the unusual photographic shots by Joe Valentine A S C on 'Rope '

Both the gear head and the electrical parallel are now being built and sold or leased by Thomas Rentals Company, Inc, of Hollywood in which Ralph Hoge is also interested

SPEED CAMERAMAN

(Continued from Page 311)

What's photogenic? Woody replied to a query. That's a term we apply to someone you can hit in the face with a tomato and they'll still look good—from any angle."

For six of her most important pictures Deanna Durbin requested Woody Bredell. Deanna was particularly intrigued by Woody's unique method of doing her closeups and always called for "Woody's cookie jar" when closeup time came around.

Seems that Bredell once noticed the sun's rays reflecting through a five-gallon jug of water onto the wall of a sound stage. It suddenly struck him, since cameramen are always searching for some brilliant halo effect with which to background actress closeups, that the shimmering effect of the designs through the water jug would be perfect for this purpose. He got an old-fashioned five-gallon cookie jar, filled it with water, shined light through it to Deanna's background and she was delighted with her closeups.

Bredell said that Doris Day is one of the least difficult actresses in Hollywood to glamorize because she has so much natural sparkle.

All I had to do in Romance on the High Seas,' he said, 'was give her plenty of light and use the little pink or blue spot under the lens. This brought out the natural color and sparkle of her eyes.

Woody said this film, in spite of the fact that he handled the very difficult Technicolor assignment on Errol Flynn in "Adventures of Don Juan," was the roughest of his career. He used 168 electricians on 350 spotlights which required two extra generators to boost the regular studio power.

Said Woody, 'I discovered that when you're lighting romance on the ocean you need a separate tier of lights for the ocean, the horizon, the ship and the actors.

Bredell is such an ardent believer in color that he uses it to raise the spirits of the actors as well as the audience. Even in a black and white picture he uses colored light in backgrounds just because it makes the scene a warmer one in which to perform.

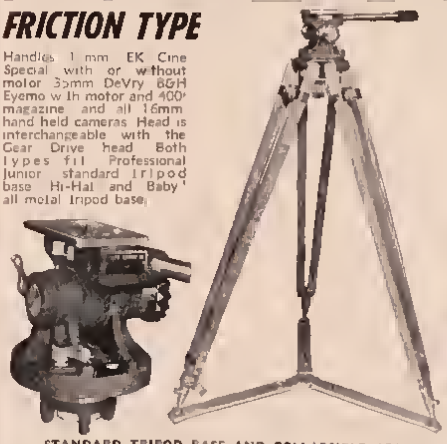
One of the most ludicrous phases of a cameraman's work is the length of time it takes him to light a setup. For a scene which takes seven minutes to shoot he may light up in 15 minutes. For a scene that takes 30 seconds it could take as long as an hour to light. Bredell is known throughout the industry as one of the speediest cameramen among the experts. This is because he uses less equipment and is what technicians call a "one source light man.' He plans his action in one

"PROFESSIONAL JUNIOR" CAMERA EQUIPMENT

Interchangeable - Removable Head Tripods

FRICTION TYPE

Handles 1 mm. EK Cine Special with or without motor, 35mm DeVry, BGH Eyemo with motor and 400' magazine, and all 16mm hand held cameras. Head is interchangeable with the Gear Drive head. Both types fit Professional Junior standard tripod base, Hi-Hat and Baby' all metal tripod base.



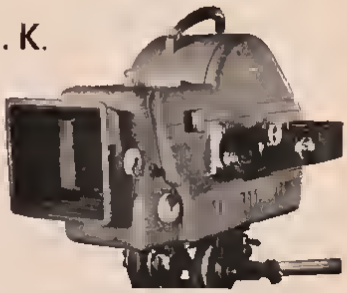
GEAR DRIVE

The head made of Dow Metal magnesium weighs but 5½ lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap on metal cranks control pan and tilt action from both sides. Worm driven gears are Gov't spec bronze.

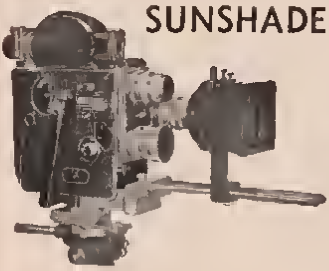
STANDARD TRIPOD BASE AND COLLAPSIBLE ADJUSTABLE METAL TRIANGLE

BLIMP for 16mm. E. K. CINE SPECIAL

This Blimp constructed of Dow Metal magnesium is thoroughly insulated to afford absolute silent operation. Exclusive features. Follow focus mechanism permits change of lens focus while camera is operating in blimp. Blimp takes synchronous motor drive which couples to camera. A dovetail bracket is provided to mount an erect image viewfinder.



SUNSHADE & FILTER HOLDER COMBINATION



For use with Bolex and Cine Special 16mm. cameras. Holds two 2" sq. gloss filters and a round 2½" Polascreen with handle which can be rotated for polarization. Covers all lenses from 15mm. to 6" telephoto and eliminates need of various filters. Precision made of the finest materials. Compact, simple to assemble and dismount. May be permanently affixed to camera or quickly detached.

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key spotlight and disperses his background lighting so that actors do not require their movement limits to be chalk-marked. This gives much more freedom of action and cuts down the need for repeated takes.

Woody is one of the two or three Directors of Photography who worked up from the ranks of still men. As the latter he photographed the publicity and advertising art on De Mille's "The Crusades." Then for ten years he was a camera operator, which job he performed on the first Deanna Durbin picture, "Three Smart Girls."

"I was always a camera fiend," he said, "and once I left home for a while because mother threw my dark room equipment out on the lawn when she found stains in her carpet."

Bredell is an ardent member of the school of cooperation. He believes in cameraman, director and writer sitting down long before shooting to talk the whole thing over.

In this way, he said, "one can avoid such problems as trying to follow a script like in 'Can't Help Singing,' that called for Deanna to climb a mountain at sundown and sing through moonrise and sunup the following morning all in one take."

No egotist about his work, Bredell says that the test of a good cameraman is to make the audience unconscious of the photography.

"The job," he said, "is to stay with the story and not to do a lot of fancy tricks that make the audience think only of the camera and forget the actors." ★★★

SET LIGHTING FOR 16MM. BUSINESS FILMS

(Continued from Page 347)

Having decided the mood of the scene and the principal light source, the cameraman is ready to light his set. However, he should first be familiar with the action pattern of the sequence so that no significant bit of business will be lost through playing it in a dimly lighted area. A run-through of the action by players or stand-ins will usually give a fair idea of the dramatic demands on the lighting.

In arranging actual lighting pattern, the cameraman first sets his key-light. Just how large a unit or units he will use for key illumination will depend upon such factors as the mood of the sequence, the brightness of the indicated source, the working aperture favored by the cameraman, and whether the picture is photographed in black and white or color. In black and white a single Baby Keg-lite may actually be sufficient to supply key-light for a low-key sequence. In color photography, however, a considerably stronger unit is required for the key-light.

Let us say, then, that the cinematographer has placed his key-light in such a way as to complement the mood, source and pattern of action within the sequence. He now must concern himself with the degree of fill-light which is to be used. The amount of fill depends upon the general key of the lighting, the mood of the scene, and the indicated source. Low-key lighting, of course, requires very little fill light, since shadows are an important adjunct. A high key sequence, however, more or less does away with shadows in favor of sparkling brilliance. This does not imply that high-key lighting is flat—it merely calls for less contrast between key-light and fill-light. Color cinematography, generally speaking, also demands more fill-light than a black and white sequence of similar mood.

The types of units to be used for fill-light are determined by the demands of the sequence. For high-key lighting, a unit as heavy as the key-light may be used, although it should be considerably toned down with scrims and diffusers. For low-key lighting, a smaller spotlight flooded out for softness but screened down by means of barn doors or a snoot is quite acceptable. A single or double Broad makes a perfect fill-light for black & white photography, since it throws a relatively shadowless light. For color photography, the Cinelite is a more ideal unit.

Having set the key-light and the main

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fill-light, the cinematographer will next consider lighting the background. Here some cameraman may work by meter (figuring a certain mathematical ratio between key-light and background) while others may work equally well merely by sizing up the situation by eye. But again, the relative brightness of the background will depend primarily upon the mood and general lighting key of the scene. In high-key cinematography, the background is often brighter than the key-light. In low-key lighting there is sometimes virtually no background light, or perhaps just enough to accent the contours of certain elements in the background.

Background illumination is best handled by setting up units outside the camera lines to light the background exclusively. If these units are mounted overhead and pointed downward at the background, there is less danger of conflicting shadows cluttering up the composition. In keeping with source, background illumination should appear to originate with the brightest element of the scene. For example, if there is a lamp burning in the scene, a spot of light should be thrown on the wall just in back of it to simulate the natural glow of that lamp.

Back-lighting and top-lighting give three dimensional depth to a scene, bringing out the contours of furniture, props

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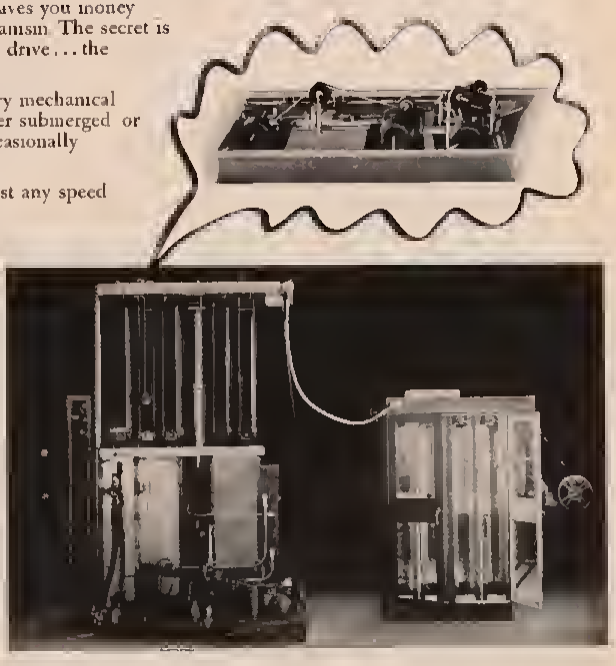

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and various textures in the decor of the set These units, too, should be mounted overhead for the best effect

A technique which is valuable both from the standpoint of *art* and *economy* is that of lighting just certain areas or planes of the set and allowing the rest to fall off into darkness In such a setting, the actors move from normal lighting to cross-lighting to silhouette in a manner which can be very effective dramatically, as well as being easy on the equipment budget However, such a lighting pattern should be carefully motivated by mood and source, and it should not be used too often

Set lighting for 16mm commercial films need not be elaborate or complicated It should be remembered, however, that the movie-going public has become conditioned to the technical excellence of the entertainment photoplay, and it naturally expects a similar quality in any other type of motion picture shown publicly Carefully chosen lighting units, a bit of originality, the exercise of great care in balancing lights will enable the commercial film producer to inject the necessary professional lighting into his films to satisfy the most critical audience

NEXT ISSUE Lighting Players on the Set'

DIMMER BANKS AND MODERN SET LIGHTING

(Continued from Page 355)

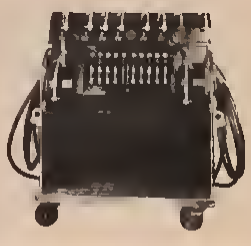
disconnected by a silent knife switch which on the latest models is dead front Each control lever is equipped with a pointer which indicates position of dimmer plate Levers are also equipped with an up and down silent rubber stop, and there are indicating pilot lights on both front and rear panels

The one illustrated was designed and manufactured by the electrical department of Columbia studios and was used by the writer on his recent assignment on that lot, the filming of "The Lone Wolf and His Lady We also used a similar dimmer bank in shooting 'The Babe Ruth Story"

Despite the value of the dimmer bank as a production moneysaver, its successful use depends entirely on skill of the operator Certain studio electricians such as Howard Robertson, at Columbia, have become specialists in operating dimmers and their services are so valued that, today, when it is proposed to use a dimmer bank on a set, invariably the first question the director of photography asks is, 'Who is to be the operator of the dimmer?

One of the most effective uses of the dimmer bank is in shooting a scene where a player or group of players are to walk from a distant position to closeup With the key light controlled by the dimmer bank, its intensity may be diminished as the players advance toward the camera A similar setup is show diagramatically in the accompanying drawing, the player at position A advances upstage and stops in front of the camera at B The light intensity at positions A and B, coming from the fixed key light at right of camera, may vary as much as 100 per cent, were the dimmer not used, but with a dimmer bank on the set and a skillful operator at the controls, light on the player can be kept constant during his entire advance to position B

Another great advantage of the dimmer bank is the speed by which sudden



FRONT VIEW of the latest Bardwell-McAlister ten-unit interlocking dimmer bank

changes in lighting may be effected with a minimum expenditure of time It frequently happens that after a scene is set and all the lights placed, the director, during a rehearsal, will decide to change the pattern of action, making it necessary to change lighting densities on certain players Before the use of dimmer banks became common, a change of this sort called for an electrician to mount a ladder and place diffusion screens over the one or more lighting units, or remove them, as the condition called for With the dimmer bank controlling all lights on the set, all that need be done is alter instructions to the operator or change position of the switch lever controlling the respective unit, raising or lowering its volume of light

The non-professional may wonder just how the dimmer bank operator knows when to raise or lower a light or bank of lights and just how much Usually this is all planned out in advance by the director of photography and cue marks made on the panel opposite each switch lever as guide As the camera rolls and the action progresses, the cameraman may give the dimmer operator cues by way of hand signs, calling for stopping down or raising a dimmer one or two points

Balancing the lighting so it will remain uniform or constant between two posi-

ions on the set, such as the one diagrammed here, can be determined by exposure meter readings—taking a reading at position A as the norm, and then holding the meter on the light at position B and lowering the dimmer bank lever until the key light is reduced in intensity to conform with the reading at position A. However, the experienced director of photography usually determines his light levels by eye, basing his calculations upon long experience behind the camera. Most studio cinematographers, you know, can tell an f/2.5 or an f/5 light condition, for example, by sight. It's second nature with them.

Other uses for the dimmer bank is in controlling room lights—floor lamps, table lamps, etc.—where the action calls for a player to turn them on upon entering a room, for example. In such cases both the lighting fixtures and the set lighting cables are fed from the dimmer bank, so that the power control is instantaneous and uniform. When the player enters the room and snaps the table lamp on, the lamp and set illumination come on simultaneously. If you have ever seen a picture in which this coordination of control was not evident—the table lamp lighting a split second before the set lighting flashed on—in all probability the feat was attempted without aid of a dimmer bank.

What we have cited here in the way of examples, of course, are those which have aided the photographer in his work or in enhancing the quality of his work. But there is another side of the story, too. Dimmer banks can also account for sizeable savings in production costs by speeding up lighting of sets and in effecting lighting changes with the least possible delay between takes. Over a period of time, the savings can materially affect the credit side of the production ledger.

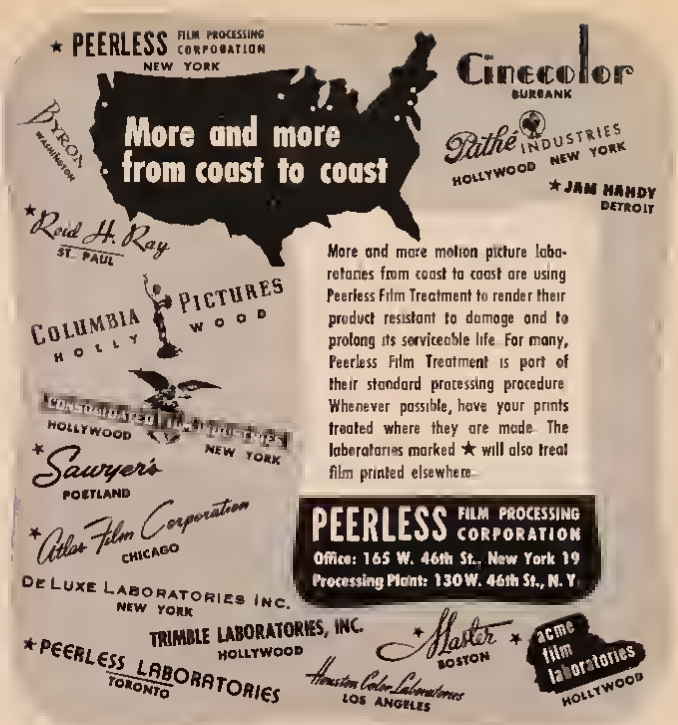
Nor are the savings and increased production quality, brought about by dimmer bank use, applicable only to studio film production. The industrial film producer also will find their use can effect sizeable savings and at the same time enhance the photographic quality of his films.

JOHNNY BELINDA

(Continued from Page 339)

bedroom. Occasionally the bedroom door opens, casting a path of light down the stairs which punctuates the otherwise somber lighting key of the scene. The low angle accentuates the urgency of the action as players approach and leave the camera. This same angle is held for several minutes without becoming monotonous because there is a constantly changing pattern of light and action within the scene.

Ted McCord and his operator, Elly Fredericks, rate congratulations, not only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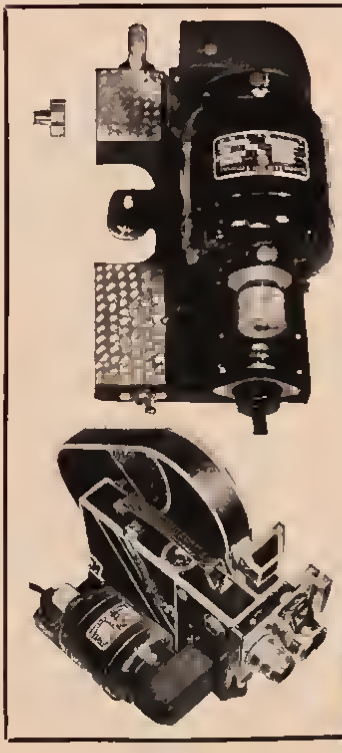

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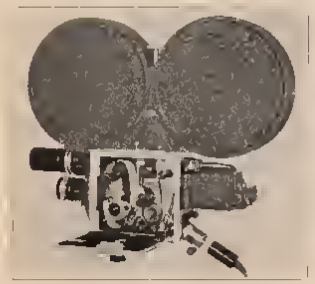

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for the artistic job of cinematography they have contributed to Johnny Belinda but also because they have kicked over some fairly rigid traces to try for effects which the books say can't be done

"It was a great experience working with director Jean Negulesco," McCord observes "An artist, he has an uncommon camera sense possessed by very few directors He is also one of the most fluid directors I've ever worked with By that I mean he has no set pattern for approaching a scene He's always receptive to suggestions and ready to try new ideas of camera approach"

Asked what he considers to be the typical characteristics of his camera style, McCord seemed somewhat puzzled 'Style?' he asked. Well, I really have no definite style It varies according to the mood of each separate picture If there's any one thing that *is* characteristic I'd say it's a continuous search for new and original approaches in filming I like to try for unusual effects, even if it means breaking all the rules of standard photographic technique I often film a sequence in a manner that is exactly opposite to the way the books say it should be done—and the result is usually a fresh and different way of presenting a dramatic idea to the audience"

COLOR IS HIS FORTE

(Continued from Page 345)

Swedish American steamship line and other Scandinavian interests proposed that he go abroad to produce these films as a means of interesting Americans in traveling in Europe, and to the Viking countries in particular

So Comstedt, accompanied by Dorothy Hane a young American script writer, as his assistant arrived in Sweden in June 1947—his first trip back to his native land in eight years The Comstedt filming expedition covered some 12,000 miles by station wagon Then in order to shoot mining activities and topographical scenes at Kiruna Lapland Comstedt and his girl Friday traveled much of the way over a single track railway that links Kiruna with Narvik riding a 'Toonerville Trolley' sort of contraption that had seen better days as a model T Ford sedan It had been adapted to the railway by replacing the rubber tired wheels with conventional flanged car wheels

On this conveyance Comstedt and his companion encountered some hair-raising experiences Photography was accomplished along this hazardous route by leaping off the car grabbing a few well-chosen shots, then hopping back on again, with the car just managing to reach the next railroad siding ahead of an ore express train

Early this year while temporarily deprived of the services of Miss Hane who had to complete scripts for other pictures on schedule, Comstedt spent a month in Lapland above the Arctic Circle, making a 16mm color picture on native winter sports Lapland is familiar ground to Comstedt, who had traveled there on location for earlier pictures And besides, skiing is his favorite sport But he encountered unusually bad weather on this trip and during a thirty day period the sun shone on but five On the rare occasions when the sun did make an appearance, he made every moment count with his camera, despite below-zero weather

In shooting the skiing sequences, Comstedt frequently used his zoom lenses, and when these did not suffice for some unusual cinematic effect, he contrived new ways to get the shots he wanted Carrying both his Cine Special and his Arriflex cameras, he would balance himself on a native dog drawn pulka, a narrow low sled, for a travel shot, or shoot from the shoulder with his camera while zooming over the Arctic snows on skis

Almost all of Comstedt's filming during the past ten years has been in color His love for color photography probably stems from events in his early boyhood that ultimately led him to cinematography as a career He was only eight years old when one day, digging among some old trunks in his grandfather's attic he found an old magic lantern and a box of hand colored slides The lantern's light source was a candle, which failed to satisfy Comstedt's desire for a brighter image on his bed sheet screen so he rigged up an electric light bulb to replace the candle and soon after was giving magic lantern shows in his home to friends who paid a cent each for admission

A few years later, a friend gave him a reel of 35mm film It was a slightly worn Chaplin comedy, but no good to Comstedt without the means to project it He soon rounded up parts of old toy projectors and some electrical apparatus and with the old magic lantern as a basis, soon had a workable homemade 35mm projector

When Comstedt grew a little older he was persuaded to enter the Swedish Royal Artillery Academy and become a career officer, but the strict regimentation of military life soon changed his mind and he enrolled in the Royal Institute of Technology, in Stockholm, and there began a course of study which ultimately led him directly toward his present work His tutor at the Institute was Prof John Hertzberg, eminent photographic expert Here at the Institute he was reunited with

an old friend, Carl-Johan Nilsson, a former medical student, and now a specialist in mathematics, physics and chemistry and a still photographer of note It was Nilsson, Comstedt says, who gave him his fundamental grounding in photography.

In 1935, Comstedt secured a postion with Ifefilm, then one of the leading producers of feature films in Sweden His schooling at the Institute soon began to pay off as he quickly attracted the attention and respect of his colleagues Comstedt's first real motion picture production began here. While employed as an assistant cameraman at Ifefilm, he would load a movie camera with short ends of film and set out on his bicycle on his lunch hour each day and shoot movies Much of these were filter tests and compositional studies to benefit his pursuit of cinematography and often the films were not developed until months later But one day he decided to see the results of his camera work and put the film through the laboratory When the results were screened in the lab's projection room, they attracted more than usual attention, and someone quickly got word to a company official that their young up-and-coming employee really had something Ifefilm's president told him to cut and edit the film and make it ready for showing as a possible theatrical release

The editing job completed, a dupe print was ordered rushed through the lab A couple of hours before the print was to be delivered to a local theatre, Comstedt discovered that it had been printed too dark He rushed the print back to the lab where he and a friend personally sweated over a remake and had it ready barely five minutes before it was to go on the screen

The success of this spare-time production led to his promotion as chief cinematographer for Ifefilm But Comstedt had grave doubts about undertaking so responsible a position He consulted his old friend Nilsson who not only encouraged him to take the job but offered to come to work as his assistant Together, Comstedt and Nilsson filmed many feature films and pioneered many technical experiments which have been credited with advancing the Swedish film industry

Having acquired long ago two of the most important zoom lenses ever made, Comstedt naturally has put them to exhaustive tests The zoom lens for his 35mm camera, valued at $12,000, is the only one of its kind in existence Its maximum aperture is f/2, which is rare in a lens of this type, and gives perfect definition at any opening with none of the abberations characteristic of the average zoom lens It has a focal length working range from 32mm to 75mm The zoom lens for his 16mm camera possesses the same unexcelled character-

(Continued on Page 360)

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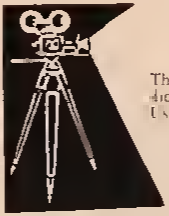

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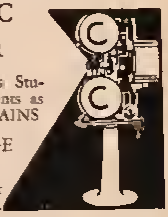

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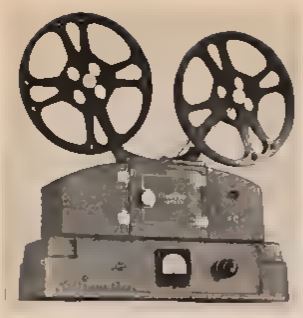

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of The American Cinematographer are available for most months of 1947 and 1948. Many earlier issues also available. All contain valuable technical articles and information relative to contemporary motion picture photography. The December issues contain an annual index as a guide to content of each year's 12 issues. Price of back issues: In U. S. 30c. Foreign 40c.
THE AMERICAN CINEMATOGRAPHER
1782 N. Orange Dr. Hollywood 28, Calif.

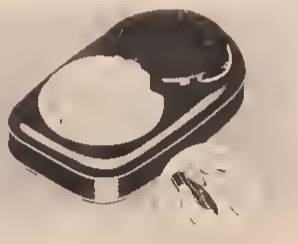
WHAT'S NEW

in equipment, accessories, service

4-Lens Cine Special Turret

Arthur H. Hart, 2125 Thirty-second Ave., San Francisco, is supplying an attractive precision-made four lens turret for the Cine Special that incorporates "C" mounts for lenses. Any lens may be swung into taking position in an instant. There is no interference between lenses in the field of view, and the turret affords use of a wide range of lenses from 15mm up to 152mm. The camera pictured shows the turret mounted with a Kodak 15mm. f/2.7, a 25mm f/1.4 Ekrat, a 63mm f/2.7 and a 152mm f/4.5 lenses.

Arthur Hart has been associated with the development of custom-built camera and electronic devices for over ten years. He markets the turret exclusively and interested readers are invited to write him for further particulars and prices.



Incident Light Reader

The Western Electrical Instrument Corporation is now offering a simple light adapter, known as the Weston Invercone, to present owners and new purchasers of Weston Master Universal Exposure Meters. With this small auxiliary device, user of a Weston can readily convert his meter for incident light where that method may be preferred, without sacrificing the many basic advantages of the reflected light method required for the bulk of his shooting. The Invercone can be used with all Weston Master Universal Exposure Meters.

The Invercone is quickly snapped into place over the photocell of the meter (as shown in the illustration) and can be used with both the high-light and low-light scales. Camera settings are selected from the exposure guide dial in the usual manner. The Invercone will be available through all photo dealers. The price is $3.

"C" Mounts

National Cine Equipment, Inc., 20 West 22nd St., New York City, is presently mounting Bausch & Lomb Baltar lenses in "C" mounts for Cine Special, Mauter, Filmo, Auricon and other makes of 16mm cameras. The Baltar lenses are available in the following focal lengths: 15mm, 17.5mm., 20mm, 25mm, 30mm, 35mm, 40mm, 50mm, 75mm, 100mm, and 152mm. These are said to be the same lenses used by the major studios and are being adapted to the needs of 16mm cinematographers and producers requiring high quality lenses for exacting work.

Reeves Lamp Available

Art Reeves, 1515 N. Cahuenga Blvd., Hollywood 28, Calif., announces that he is again manufacturing the popular 'Lin-O-Lite' recording glow lamps. Reeves also manufactures the 'Sensitester' which is especially adapted to modern fine grain films.

COLOR IS HIS FORTE

(Continued from Page 359)

istics. Having a maximum aperture of f/2.3, its focal length range is 25mm to 80mm. While in the United States, Comstedt is setting up a plan whereby these lenses will be made available to cinematographers and producers on a lease basis.

Olle Comstedt, A.S.C., is the sixteenth and latest non-resident member to be admitted to the American Society of Cinematographers. He is associated with Films For Industry, Inc., New York and he controls, along with Sven Thermaenius, noted producer and cinematographer, the International Color Film Productions, Ltd., of Stockholm. Comstedt really specializes in interior color photography. Here, he feels both the lighting and composition can be perfectly controlled. While his chief interest will always remain in the field of feature films, his main efforts these days are directed toward the production of documentary films in color.

THERE'S GOLD IN 16MM., TOO!

(Continued from Page 342)

side of a factory which manufactured fishing equipment I was never conscious of any so-called advertising plugs Glen's job has turned out so well that school boards and educational centers are asking for prints of the picture"

The biological sequence of "Forever Angler" has been acclaimed by noted biologists to be the finest thing of the kind ever to be put on film The life sequence of the trout, starting with the stripping of the female, fertilizing the eggs and following with microscopic shots showing process of sperm entering the egg, and on through each stage of development from embryo to maturity, is an artistic masterpiece The color is magnificent, showing the blood stream, the heart beating and the various organs developing

The microscopic shots presented many difficulties and called for Glen's keenest technical skill, patience and ingenuity This sequence, which was in work 28 days, was made possible by the generous cooperation of Robert C Lewis, Assistant Supervisor at the Hot Creek Hatcheries, near Bishop, California, Allan Taft, Chief of the Fish & Game Commission at Sacramento, and the personnel of the State Fish Hatchery at Fillmore, California

Much of the four week period spent in shooting the biological sequence was consumed in making tests and experiments It was impossible to make such shots based on exposure meter calculations, nor are there any predetermined exposure data available in textbooks which would aid a photographer to set his lens in making microscopic shots of this kind So Glen solved the problem of exposure, focus, and etc, through trial and error Test shots were made, rushed to the laboratory for processing, then screened for study In the end, the sequence of shots which highlights this informative color film were made as follows

The problem was to secure highly magnified shots of the actual development of trout embryo from the newly hatched egg to the full fledged trout minnow Because the eggs and the embryo are translucent, much interest lies in watching the development of the embryo's blood stream, and its head and facial features To capture this on film it was necessary to provide delicate but ample lighting from the rear A very simple arrangement enabled this to be done with success

The Cine Special camera was mounted vertically and fitted with a telephoto lens The eggs, and later the developing embryos, were placed with a small quantity of water into a glass tumbler resting on a sheet of glass. Then the camera was lowered toward the tumbler until the telephoto lens, entering the glass, was within a fraction of an inch of the water. The necessary illumination was provided by reflecting light from a photoflood lamp onto a light blue card and thence toward bottom of the tumbler Two electric fans blowing cool vapors from chunks of dry ice upon the tumbler kept the more virile of the embryos from dying and thus enabled Glen to photograph them The eggs and the embryos are extremely delicate and many died the moment they were transferred from the hatchery tank to the tumbler before the camera In addition to the exhaustive test shots which determined correct focus and exposure, it was necessary to remake several shots as many as four times, because of fatalities suffered by the subjects The action in all shots of the biological sequence was filmed at standard sound speed

When questioned concerning his transition from 35mm film to 16mm film, Glen had some very definite ideas He claims that 16mm film has too long been identified with amateurs, pegged with such minimizing titles as 'substandard,' 'minifilm" and 'narrow gauge,' and says, I am still waiting to meet anyone who can show me the difference between the responsibilities of a professional cameraman who uses 16mm film and one who uses 35mm—or any other size"

Forever Angler" was nine months in the making because of the different seasons of the various fishing sequences, and the picture takes one through practically every type of fishing—catfish, trout, and bass, fishing from surf and piet, and on up to swordfishing Besides, the fish actors didn't always do what the director wanted them to It took patience and time—waiting until the right shot came up Shooting the marlin sequence alone consumed ten days

Glen says he has no intention of going into mass production of commercial and educational films Using the same Cine Special and the Maurer 16mm sound camera with which he photographed this production, he plans to make no more than two or three pictures a year, each to be unique in its respective field

BULLETIN BOARD

(Continued from Page 332)

to the motion picture industry on which reports and demonstrations will be presented at the convention

•

IN MEMORIAM—William H Dietz, ASC, died recently in Seattle, Washington, according to advice received from his wife An active ASC member at time of his death, he was formerly a well-known cinematographer in the Hollywood studios

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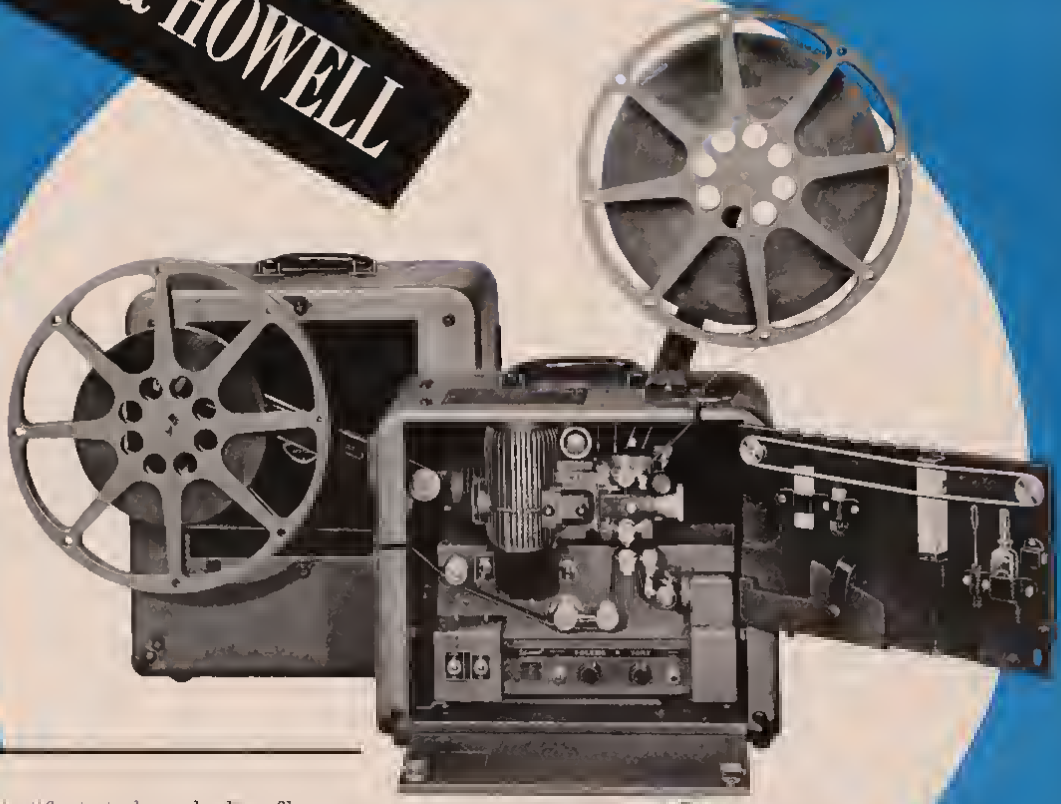

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